



Billing Code 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL-9923-75-Region 5]

Sole Source Aquifer Designation of the Mahomet Aquifer System in East-Central Illinois

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of Final Determination.

SUMMARY: Notice is hereby given that pursuant to the Safe Drinking Water Act (SDWA) Section 1424(e) and in response to a petition by a coalition of cities, a town, villages, and a public university in east-central Illinois, the Regional Administrator for Region 5 of the Environmental Protection Agency (EPA) has determined that a portion of the Mahomet Aquifer System in east-central Illinois is a sole or principal source of drinking water and if contaminated, would create a significant hazard to public health. As a result of this action, all projects receiving Federal financial assistance are subject to review by EPA regarding whether such projects may contaminate the designated aquifer system through a recharge zone so as to create a significant hazard to public health.

DATES: This determination is effective immediately.

FOR FURTHER INFORMATION CONTACT: William Spaulding, EPA Region 5, Water Division, Ground Water and Drinking Water Branch, by mail at 77 W. Jackson Boulevard, Chicago, IL 60604; by telephone at (312) 886-9262; or by email at spaulding.william@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background

Section 1424(e) of the SDWA provides as follows:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

42 U.S.C. § 300h-3(e). The authority to designate an aquifer under this section has been delegated to the Regional Administrator.

EPA in general considers a “sole or principal source” or sole source aquifer (SSA) to be an aquifer or aquifer system that is needed to supply fifty percent or more of the drinking water “for the aquifer service area,” and for which there is no reasonably available alternative source or sources that could physically, legally, and economically supply those dependent upon the aquifer. See U.S. EPA, 1987, Sole Source Aquifer

Designation Decision Process, Petition Review Guidance (“EPA Petition Review Guidance”). A portion of an aquifer can be designated if it is hydrogeologically separate from the rest of the aquifer. Id. at 6. Similarly, a system of hydrogeologically connected aquifers can be designated as an SSA. Id.

On December 12, 2012, EPA received a petition to designate a portion of the Mahomet Aquifer System in east-central Illinois as an SSA from the City of Champaign and several partners, including the Cities of Urbana, Delavan, and Gilman; the Town of Normal; the Villages of Savoy, Mansfield, and Mahomet; and the University of Illinois at Urbana-Champaign. Following receipt of the petition, additional entities expressed support for the petition, including Champaign and DeWitt Counties; the Cities of Clinton and Watseka; the Villages of Armington and Waynesville; and the Illinois-American Water Company.

In response to the petition, EPA published a notice of its intent to designate a portion of the Mahomet Aquifer System in east-central Illinois as an SSA and announced two Public Hearings in Champaign, Illinois on May 13, 2014, and in Morton, Illinois on May 14, 2014. This notice was published in two newspapers of general circulation in the area: the Champaign News Gazette and Peoria Journal Star, on March 12, 2014. This notice also announced the request for written comments during the public comment period from March 13, 2014 to June 12, 2014.

The public comments received by EPA generally support designation. EPA also received significant comments and additional scientific studies on the geology of the Mahomet Aquifer System during the comment period. These comments and additional studies required extensive evaluation and consideration. EPA has responded to the public comments in a document titled:

“Responsiveness Summary – Sole Source Aquifer Petition for the Mahomet Aquifer System in East-Central Illinois – March 2015.” The Responsiveness Summary and other relevant documents are available for public inspection during normal business hours at the following locations: Champaign Public Library, 200 W. Green St., Champaign, Illinois; Bloomington Public Library, 205 E. Olive St., Bloomington, Illinois; Pekin Public Library, 301 S. Fourth St., Pekin, Illinois; Havana Public Library, 201 W. Adams St., Havana, Illinois; Watseka Public Library, 201 S. 4th St., Watseka, Illinois; U.S. EPA’s Region 5 Office Library, 77 W. Jackson Blvd., Chicago, Illinois.

II. Description of Mahomet Aquifer System in East-Central Illinois

The Mahomet Aquifer is located in Illinois, Indiana, Ohio, and possibly West Virginia. This SSA designation is for a hydraulically and hydrogeologically distinct portion of the aquifer system in east-central Illinois bounded in the east by the Iroquois River and the North Fork of the Vermilion River and in the west by the Illinois River. Within the SSA area, deposits of saturated sand or sand and gravel found within the Quaternary deposits are aquifers that provide most (approximately 94 percent) of the water used in this region. These Quaternary deposits directly overlie the bedrock and bury features on the bedrock surface. As a result of geological processes that have shaped the region, the hydrogeology is very complex.

To define the boundary of the designated Mahomet Aquifer System, EPA verified that the 500-foot contour line and saturated thicknesses of the Mahomet Aquifer best represent the buried valleys that contain enough sand and gravel to be significant sources of groundwater. The Mahomet Aquifer has been mapped by studies that used boreholes to penetrate into the top surface of the Mahomet sand, providing greater accuracy on the extent of the aquifer than the

bedrock surface alone. Recharge of the Mahomet Aquifer occurs throughout the designated SSA area. While much of the eastern portion of the SSA area is confined by low-permeability glacial till, studies demonstrate that recharge of the principal aquifer is occurring in this area, even though it may be occurring at a low rate. Recharge of the Mahomet Aquifer occurs at a much greater rate in the western portion of the SSA area. In addition, there are studies documenting connections between the aquifer zones in the shallower formations, namely the Glasford Formation, and the Mahomet Aquifer within the SSA area. For these reasons and those explained in more detail in the Responsiveness Summary, EPA is designating the entire aquifer system within the SSA area.

III. Basis for Determination

In accordance with Section 1424(e) of the SDWA, 42 U.S.C. § 300h-3(e), the Regional Administrator considered the following factors to determine whether the petition should be granted: (1) whether the Mahomet Aquifer System in east-central Illinois is the area's sole or principal source of drinking water; and (2) whether contamination of the aquifer system would create a significant hazard to public health. Based on information available to EPA, the Regional Administrator makes the following findings¹ in favor of designating the Mahomet Aquifer System in east-central Illinois as an SSA:

- 1) The Mahomet Aquifer System provides approximately 94 percent of the drinking water to the service area today. This exceeds the 50 percent usage criteria for SSA designation in EPA's guidance. EPA Petition Review Guidance at 8. Moreover, demand on this aquifer system is expected to increase in the future. The Mahomet Aquifer System

¹ The findings that support designation are set out more fully in an EPA publication titled: "Support Document for Proposed Designation of the Mahomet Aquifer System as a Sole Source." This document is available to the public at the locations identified above.

currently provides an estimated 53 million gallons per day (mgd) of drinking water to approximately 120 public water supplies and thousands of rural wells, together serving over 500,000 people. There currently are no intakes from surface waters for public water supplies within the aquifer service area.

- 2) Over 50 percent of the population in the Mahomet Aquifer System service area would be unable to find either a physically available or economically feasible alternative source of drinking water should the aquifer system become contaminated. Potential alternative sources of drinking water near the proposed aquifer service area include: (1) sand and gravel aquifers outside the SSA area; (2) bedrock aquifers; (3) reservoirs; and (4) free-flowing streams and rivers. Due to low potential yields and poor water quality, bedrock aquifers are not a viable alternative source of drinking water. Similarly, nearby water supply reservoirs lack enough additional capacity to serve as viable alternative drinking water sources. Finally, for over 70 percent of the communities that are near enough to use sand and gravel aquifers outside the SSA area or free-flowing streams and rivers to deliver drinking water of the same or better quality, it would be economically infeasible to do so.
- 3) Contamination of the Mahomet Aquifer System would create a significant hazard to public health for east-central Illinois. The Mahomet Aquifer System is a significant water resource that is critically important to the safety and economic development of the area. It is the primary source of drinking water for over 100 communities and tens of thousands of rural homeowners located within 14 Illinois counties. In addition, the Mahomet Aquifer System furnishes water to many self-supplied agricultural, industrial,

institutional, and commercial users that rely upon it for cooling, process water, and row-crop irrigation, providing an estimated 170 mgd to these users.

IV. Information Relevant to the Designation

The information referenced to make this designation is available to the public and may be inspected during normal business hours at EPA Region 5 Library, 77 West Jackson Boulevard, Chicago, Illinois 60604. In addition, documents related to this designation are available at area public libraries listed above.

V. Project Review

Following publication of this determination, “no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.” 42 U.S.C. § 300h-3(e). EPA may review any such proposed projects and, where possible, make suggestions or recommendations to plan or design the project to ensure it will not contaminate the aquifer system so as to create a significant hazard to public health. Proposed projects that are funded entirely by state, local, or private concerns are not subject to SSA review by EPA.

The project review area for this SSA consists of the designated SSA area plus three watersheds adjacent to the designated SSA area that provide recharge to the Mahomet Aquifer System. These watersheds are the Sugar Creek, the Sangamon River near Fisher, and the Tributary to the Middle Fork Vermilion River. A map of both the SSA area and the project review area can be found at the locations listed above.

VI. Conclusion

Today's action designates the Mahomet Aquifer System in east-central Illinois as an SSA. The designated SSA area and project review area are located in the following counties in Illinois: Cass, Champaign, DeWitt, Ford, Iroquois, Livingston, Logan, Macon, Mason, McLean, Menard, Piatt, Tazewell, Vermilion, and Woodford. Maps depicting the designated SSA and project review areas are available to the public at the locations listed above.

Dated: March 11, 2015.

Susan Hedman

Regional Administrator, Region 5

[FR Doc. 2015-06365 Filed: 3/18/2015 08:45 am; Publication Date: 3/19/2015]